This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for generating an interface to elements in a document, wherein the document defines a relationship of the elements and at least one attribute for each element, comprising:

providing a mapping indicating at least one element in the document to map to a class and an interface to generate for the class, wherein the interface defines methods to access the element for which the class is generated; and

generating [[a]] the class and the interface implementing methods for the at least one element from information provided on elements in the document and [[a]] the mapping ~~indicating at least one element in the document to map to a class~~, wherein the at least one indicated element in the document for which the class is generated can be accessed and affected by the methods implemented in the class.

2. (Original) The method of claim 1, wherein the mapping includes a class name for each indicated element.

3. (Original) The method of claim 1, wherein the mapping indicates a data type for at least one attribute of the indicated element.

4. (Previously Presented) The method of claim 1, wherein the relationship of the elements in the document are arranged in a hierarchical relationship, and wherein the methods in the at least one class generated for the element allow a user to directly access and affect the element in the document.

5. (Original) The method of claim 4, further comprising accessing the at least one element in the document indicated in the mapping using a hierarchical application program interface (API), wherein one class is generated for each accessed element.

6. (Canceled)

7. (Original) The method of claim 6, wherein the methods implemented in the class include at least one method that is a member of the set of methods comprising: adding an instance of the element, inserting an instance of the element at a location in the document with respect to other instances of the element in the document, and removing an instance of the element from the document.

8. (Original) The method of claim 1, further comprising defining extended attributes of at least one element and instantiating the class for the at least one indicated element from the defined extended attributes.

9. (Original) The method of claim 8, wherein the defined extended attributes define further methods for the class.

10. (Original) The method of claim 7, further comprising serializing defined extended attributes into memory, wherein the defined extended attributes are capable of being deserialized from the memory to instantiate the at least one element class to implement the defined extended attributes.

11. (Currently Amended) A system for generating an interface to elements in a document, comprising:

a memory including:

(i) the document, wherein the document defines a relationship of the elements and at least one attribute for each element; and

(ii) a mapping indicating at least one element in the document to map to a class and an interface to generate for the class;

means for generating [[a]] the class and the interface implementing methods for the at least one element from information provided on elements in the document and the mapping, wherein the at least one indicated element in the document for which the class is generated can be accessed and affected by the methods implemented in the class.

12. (Original) The system of claim 11, wherein the mapping includes a class name for each indicated element.

13. (Original) The system of claim 11, wherein the mapping indicates a data type for at least one attribute of the indicated element.

14. (Previously Presented) The system of claim 11, wherein the relationship of the elements in the document are arranged in a hierarchical relationship, and wherein the methods in the at least one class generated for the element allow a user to directly access and affect the element in the document.

15. (Original) The system of claim 14, further comprising means for accessing the at least one element in the document indicated in the mapping using a hierarchical application program interface (API), wherein one class is generated for each accessed element.

16. (Canceled)

17. (Original) The system of claim 16, wherein the methods implemented in the class include at least one method that is a member of the set of methods comprising: adding an instance of the element, inserting an instance of the element at a location in the document with respect to other instances of the element in the document, and removing an instance of the element from the document.

18. (Original) The system of claim 11, further comprising:

means for defining extended attributes of at least one element; and

means for instantiating the class for the at least one indicated element from the defined extended attributes.

19. (Original) The system of claim 18, wherein the defined extended attributes define further methods for the class.

20. (Original) The system of claim 17, further comprising means for serializing defined extended attributes into memory, wherein the defined extended attributes are capable of being deserialized from the memory to instantiate the at least one element class to implement the defined extended attributes.

21. (Currently Amended) An article of manufacture for use in generating an interface to elements in a document, wherein the document defines a relationship of the elements and at least one attribute for each element, the article of manufacture comprising computer readable storage media including at least one computer program embedded therein that is capable of causing a processor to perform:

providing a mapping indicating at least one element in the document to map to a class and an interface to generate for the class, wherein the interface defines methods to access the element for which the class is generated; and

generating [[a]] the class and the method implementing methods for the at least one element from information provided on elements in the document ~~and a mapping indicating at least one element in the document to map to a class~~, wherein the at least one indicated element in the document for which the class is generated can be accessed and affected by the methods implemented in the class.

22. (Original) The article of manufacture of claim 21, wherein the mapping includes a class name for each indicated element.

23. (Original) The article of manufacture of claim 21, wherein the mapping indicates a data type for at least one attribute of the indicated element.

24. (Previously Presented) The article of manufacture of claim 21, wherein the relationship of the elements in the document are arranged in a hierarchical relationship, and wherein the methods in the at least one class generated for the element allow a user to directly access and affect the element in the document.

25. (Original) The article of manufacture of claim 24, further comprising accessing the at least one element in the document indicated in the mapping using a hierarchical application program interface (API), wherein one class is generated for each accessed element.

26. (Canceled)

27. (Original) The article of manufacture of claim 26, wherein the methods implemented in the class include at least one method that is a member of the set of methods comprising: adding an instance of the element, inserting an instance of the element at a location in the document with respect to other instances of the element in the document, and removing an instance of the element from the document.

28. (Original) The article of manufacture of claim 21, further comprising defining extended attributes of at least one element and instantiating the class for the at least one indicated element from the defined extended attributes.

29. (Original) The article of manufacture of claim 28, wherein the defined extended attributes define further methods for the class.

30. (Original) The article of manufacture of claim 27, further comprising serializing defined extended attributes into memory, wherein the defined extended attributes are capable of being deserialized from the memory to instantiate the at least one element class to implement the defined extended attributes.